

REMARKS

Applicants acknowledge receipt of an Office Action dated May 5, 2003. In this response, Applicants have amended claim 4 to correct a minor typographical error. Following entry of these amendments, claims 1-14 are pending in the application.

Reconsideration of the present application is respectfully requested in view of the foregoing amendments and the remarks which follow.

Claim Objections

On page 2 of the Office Action, the PTO has objected to claim 4 for a minor informality. In this response, Applicants have amended claim 4 to correct a typographical error. Specifically, Applicants have amended claim 4 to replace the term "electrostatic" with "electrostatic". In view of this amendment, Applicants respectfully request reconsideration and withdrawal of the outstanding objection to claim 4.

Rejections Under 35 U.S.C. §103

On page 3 of the Office Action, the PTO has rejected claims 1, 3 and 4 under 35 U.S.C. §103(a) as being unpatentable over Japanese Patent Publication 10-092796 to Imafuku *et al.* (hereafter "Imafuku") in view of U.S. Patent 5,919,332 to Koshiishi *et al.* (hereafter "Koshiishi"). On page 4 of the Office Action, the PTO has rejected claim 5 under 35 U.S.C. §103(a) as being unpatentable over Imafuku in view of Koshiishi in further view of U.S. Patent 6,149,730 to Matsubara *et al.* (hereafter "Matsubara"). In addition, the PTO has rejected claims 2, 6 and 7 under 35 U.S.C. §103(a) as being unpatentable over Imafuku in view of Kishiishi and further in view of Japanese Patent Publication 01-213910 to Ando (hereafter "Ando"). Finally, on page 6 of the Office Action, the PTO has rejected claim 8 under 35 U.S.C. §103(a) as being unpatentable over Imafuku in view of Kishiishi and Ando, in further view of Matsubara. Applicants respectfully traverse these rejections for the reasons set forth below.

In the previous response, based on the PTO's acknowledgement that Table 1 and Table 2 in the specification "show data for average grain sizes of 21.7-40 μm , Ra of 1.1 -2.2,

and density of less than 4,” Applicants amended independent claim 1 to recite “an average grain size of 21.7-40 μm , a surface roughness of 1.3-2.2 μm , and a bulk density of 3.90 g/cm³ or over but less than 4 g/cm³.” Applicants amended claim 1 solely to advance prosecution of the claimed subject matter to, hopefully, allow that subject matter to issue as a patent without further delay. Applicants expressly reserve the right pursue additional subject matter in further applications.

In the present Office Action, as in previous Office Actions, the PTO has applied Imafuku as a primary reference, stating that Imafuku discloses a product “made of alumina and magnesia (MgO) and has a purity of 99.9%, a bulk density of 3.98 g/cm³, and an average grain size of 10 to 100 micrometers.” In addition, the PTO has acknowledged that Imafuku does not teach surface roughness.

As set forth in MPEP §716.01, the PTO must consider comparative data in the specification. Further, as set forth in MPEP §716.02(e), Applicants need only compare their invention with the closest single prior art reference since requiring applicants to compare their invention to a combination of references would be requiring comparison of the results of the invention with the results of the invention. In the present application, Applicants have provided comparative data which has been summarized in Tables 1 and 2 on page 22 of the specification. Taking Imafuku, the primary reference applied by the PTO, as the closest prior art, Applicants discuss below the comparative data shown in the present specification as it relates to Imafuku.

The product of Comparative Example 1, like Imafuku, is made of alumina and magnesia (the Mg in Table 1 refers to MgO - see the first full paragraph on page 12), has a purity of 99.9%, has a bulk density of 3.98 g/cm³, and an average grain size of 13 μm (within the 10 to 100 micrometer range of Imafuku). Imafuku includes no example that is closer than Comparative Example 1. For Comparative Example 1, the discharge time before particles exceed the control value is 22 hours.

The plasma resistant member of claim 1 of the present invention comprises “an average grain size of 21.7-40 μm , a surface roughness of 1.3-2.2 μm , and a bulk density of

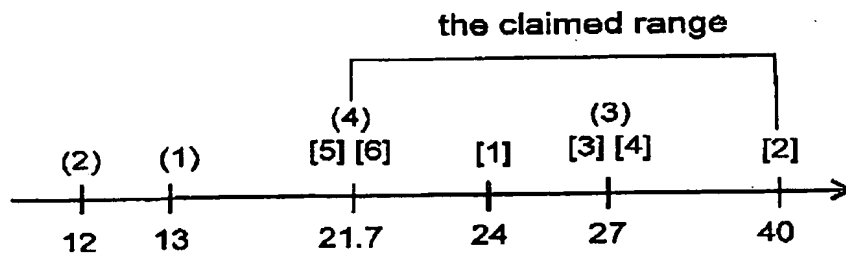
3.90 g/cm³ or over but less than 4 g/cm³." Example 1, shows data for an average grain size of 24 μm, a surface roughness of 1.3 μm, a bulk density of 3.99 g/cm³, all values within the ranges of claim 1. In contrast to Comparative Example 1, the discharge time before particles exceed the control value for Example 1 is 80 hours. Thus, as shown, for example, by the discharge times for Example 1 and Comparative Example 1, the combination of parameters of claim 1, provides unexpected results as compared to an embodiment that is closer to the claimed invention than any embodiment in the closest single reference applied by the PTO.

In the Office Action, at page 6, lines 6-12, the PTO has stated that "the unexpected results are not commensurate with the claimed range." The PTO continues, stating that the "results in Tables 1 and 2 only show data for a specific average grain size, corresponding with a specific surface roughness and with a specific bulk density" and concludes, stating that "the showing of unexpected results over the entire claimed range has not been demonstrated." Applicants respectfully request that the PTO reconsider the data in the specification.

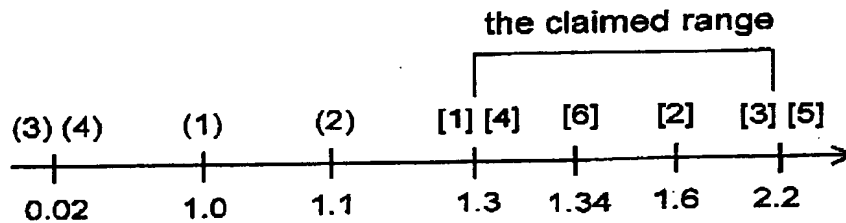
Applicants believe that the unexpected results are reasonably commensurate with the claimed range if the results in Tables 1 and 2 are read by taking into consideration the detailed explanation of Examples 1-6 and Comparative Examples 1-4 in the present specification, from page 12, line 4 to page 19, line 8. Figure "X", below, shows the relationships between (i) the claimed ranges for grain sizes and Ra, (ii) the Examples and (iii) the Comparative Examples. In Figure "X", []'s are used to denote Examples of the present invention which are within the claimed range, and ()'s are used to denote Comparative Examples which are not within the claimed range.

Figure "X"

Re: grain size



Re: surface roughness



As can be seen in Figure "X", Examples 1-6 provide data both at the end points and between the endpoints for the claimed ranges. Applicants note that the PTO has indicated that claims 9-14, which correspond to Examples 1-6 in the specification, respectively, contain allowable subject matter. Since these individual Examples, which span the claimed ranges, are allowable, Applicants submit that the claimed ranges are allowable. It has never been the law that an applicant is required to provide comparative data with regard to all embodiments falling within a claim, but rather only a reasonable number of embodiments is required. Typically, and with particular applicability to the present context, the law accepts as sufficient comparative data taken at or near the endpoints of the claimed range. Based on this

traditional measure of sufficiency, Applicant's comparative evidence goes well beyond the minimum level of evidence required to be probative of non-obviousness. Reconsideration is therefore respectfully requested.

In view of the foregoing remarks and in view of the objective evidence in the specification, Applicants submit that claim 1, as well as claims 2-8 which depend therefrom, are non-obvious and respectfully request reconsideration and withdrawal of the outstanding rejection of these claims, and Applicants respectfully request reconsideration and withdrawal of the outstanding rejection under §103.

Allowable Subject Matter

Applicants acknowledge, with appreciation, the PTO's indication that claims 9-14 contain allowable subject matter and that these claims would be allowable if rewritten in independent form.

CONCLUSION

In view of the foregoing amendments and remarks, Applicants respectfully submit that all of the pending claims are now in condition for allowance. An early notice to this effect is earnestly solicited. If there are any questions regarding the application, the Examiner is invited to contact the undersigned at the number below.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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By 

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